What is claimed is:

1. A photographic apparatus for use with a stereoscopic microscope having at least two observation light paths for observing at least two images having parallax, said photographic apparatus using a light flux that has been split from one of the observation light paths, said photographic apparatus comprising:

at least two image detecting elements, each having an image receiving surface;

a connecting part that is connectable to the stereoscopic microscope;

a beam splitter that is positioned in an optical path between the connecting part and the at least two image receiving surfaces; and

an image relay optical system that is positioned in each light flux following said beam splitter, each image relay optical system relaying an intermediate image that is formed in each light flux following said beam splitter to a respective one of the at least two image receiving surfaces.

2. A photographic apparatus for use with a stereoscopic microscope having at least two observation light paths for observing at least two images having parallax and for use with at least two image detecting devices, said photographic apparatus using a light flux that has been split from one of the observation light paths, said photographic apparatus comprising:

at least two image surfaces, at each of which an image surface of the image detecting element is placed when the image detecting element is used with the photographing apparatus;

a connecting part that may be connected to the stereoscopic microscope;

a beam splitter that is positioned in an optical path between the connecting part and the at least two image surfaces; and

an image relay optical system that is positioned in each light flux following said beam splitter, each image relay optical system relaying an intermediate image that is formed in each light flux following said beam splitter to a respective one of the at least two image surfaces.

3. In combination, a stereoscopic microscope and a photographic apparatus:

the stereoscopic microscope including

an objective lens for substantially collimating a light flux from an object;

two afocal zooming optical systems which receive light from the objective lens;

a first beam splitter for splitting the light flux that exits one of the afocal zooming optical systems into two light fluxes, one of which is directed to an observation system for an observer; and

a binocular tube optical system for forming two images having parallax of an object using the light fluxes that have passed through the afocal zooming optical systems, said binocular tube optical system including eyepiece optical systems; and

a photographic apparatus, which receives one of the light fluxes split by the first beam splitter, and onto which at least two image detecting devices are attachable, said photographic apparatus including

a second beam splitter for splitting the light flux in the photographic apparatus into at least two light fluxes;

an optical system that forms an intermediate image in each divided light path between the second beam splitter and each image detecting device, and

an image relay optical system for relaying each intermediate image to a respective image receiving surface of each image detecting device.

4. The photographic apparatus according to claim 1, wherein the following Condition (1) is satisfied in each optical path:

$$-0.45 \geq \beta \geq -4 \qquad \ldots \text{Condition (1)}$$

where

ß is a magnification, defined as the ratio of the image size at an image receiving surface of the photographic apparatus divided by the image size of the respective intermediate image.

5. The photographic apparatus according to claim 1, wherein the following Condition (2) is satisfied in the photographic optical path:

$-0.55 \geq \beta \geq -3$ . . . Condition (2)

where

ß is a magnification, defined as the ratio of the image size at an image receiving surface of the photographic apparatus divided by the image size of the respective intermediate image.

6. The photographic apparatus according to claim 1, wherein:

each image relay optical system includes a pupil relay lens unit and an image formation lens unit;

each of the image formation lens units includes a Gaussian-type lens system that has two concave surfaces that face each other; and

the pupil relay lens unit and the image formation lens unit are so arranged that an exit pupil of the image formation lens unit is positioned substantially at infinity.

7. The photographic apparatus according to claim 6, wherein said Gaussian-type lens system comprises a negative lens having a concave surface and a positive lens made of anomalous dispersion optical material that is placed in proximity to the negative lens or is cemented to the negative lens.

8. The photographic apparatus according to claim 2 in combination with a stereoscopic microscope, wherein the center of gravity of the stereoscopic microscope is arranged substantially along the rotation axis of the image rotator.

9. The photographic apparatus according to claim 1, and further comprising:

a stereoscopic microscope, the stereoscopic microscope including a pupil relay optical system that forms only a single intermediate image and relays the pupil of the stereoscopic microscope; and

an image rotator that is arranged on, or in the vicinity of, the relayed pupil.

10. The combination according to claim 3, wherein the following Condition (1) is satisfied in each divided light path of the photographic system:

$-0.45 \geq \beta \geq -4$ . . . Condition (1)

where

ß is a magnification, defined as the ratio of the image size at an image receiving surface of the photographic apparatus divided by the image size of the respective intermediate image.

11. The combination according to claim 3, wherein:

each image relay optical system includes a pupil relay lens unit and an image formation lens unit;

each of the image formation lens units includes a Gaussian-type lens system that has two concave surfaces which face each other;

exit pupils of the image formation lens units are positioned substantially at infinity; and

each of the Gaussian-type lens systems includes a negative lens having a concave surface and a positive lens that is made of an anomalous dispersion optical material that is placed in proximity to the negative lens or is cemented to the negative lens.

12. The combination according to claim 3, wherein:

an image rotator is arranged in the photographic apparatus for rotating an image to be photographed; and

a pupil relay optical system is arranged on the object side of the image rotator;

wherein

the pupil relay optical system forms only a single intermediate image and relays an exit pupil of the stereoscopic microscope to a position on, or in the vicinity of, the image rotator.

13. The combination according to claim 12, wherein:

the afocal zooming optical systems each includes an image relay optical system and a zoom lens part; and

a part of the pupil relay optical system and a part of the image relay optical system are shared so that one or more components are common to each.

14. The photographic apparatus according to claim 2, wherein an optical system that is arranged along an optical path from an image rotator to an image surface is housed within an arm that is adapted for connecting the stereoscopic microscope to a platform.

15. The photographic apparatus according to claim 9, wherein an optical system that is arranged along an optical path from an image rotator to an image surface is housed within an arm that is adapted for connecting the stereoscopic microscope to a platform.

16. The combination according to claim 12, wherein an optical system that is arranged along an optical path from an image rotator to an image surface is housed within an arm that is adapted for connecting the stereoscopic microscope to a platform.